Tropical Forecast - Cone v3.0
Document Version 1.1

Domain Portfolio: Tropical | Domain: Forecast | Usage Classification: Standard

Geography: Global **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The Tropical Forecast - Cone API renders a cone representing the projected path of a tropical storm and current position information, based on 5 days of forecast advisory. For this API, JSON returned will always be GeoJSON.

Note: Storms will only pull from a designated source when calling by stormId.

- **See the common usage and style guide which describes the common elements, error handling, language support, units and terminology used by the Weather Company Data APIs.**
  - **https://ibm.co/APICom**

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- stormType
- latitudeHemisphere
- stormSubType
- longituteHemisphere
- stormDirectionCardinal
- directionCardinal

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	**v3-tropical-cone**
Request by Source and Basin: Required Parameters: source, basin, language, format, units, nautical, apiKey https://api.weather.com/v3/tropical/cone?**source=<source>**&**basin=<basin>**&language=<language>&format=<format>&units=<units>&nautical=<nautical>&**apiKey=<apiKey>**		
https://api.weather.com/v3/tropical/cone?**source=default**&**basin=all**&language=en-US&format=json&units=e&nautical=true&apiKey=**yourApiKey**		
Request by Storm ID: Required Parameters: stormId, language, format, units, nautical, apiKey https://api.weather.com/v3/tropical/cone?**stormId=<stormId>**&language=<language>&format=<format>&units=<units>&nautical=<nautical>&**apiKey=<apiKey>**		
https://api.weather.com/v3/tropical/cone?**stormId=EP052016**&language=en-US&format=json&units=e&nautical=true&**apiKey=yourApiKey**		

Valid Parameter Definitions

The valid parameter values listed below are unique to this API and are cases sensitive. These parameters support the ability to ‘filter’ the request by the supported sources and basins.

Parameter: source	
Valid Parameter Value	Description
default	Data returned is limited to a TWC selected source for that basin. As additional sources are added worldwide, the default source for a particular basin may change.
all	Data returned for all sources for that basin.
Parameter: basin	
Valid Parameter Value	Description
all	Data returned for all supported basins (listed below).
AL	Atlantic Ocean
CP	Central Pacific
EP	Eastern Pacific Ocean
IO	Indian Ocean
SH	Southern Hemisphere
WP	Western Pacific

Nautical Parameter

If nautical=true, then any measurement that could be represented as knots is, regardless of the units parameter. Anything that is not subject to nautical form is left in the requested units (which is why you see pressures switch back and forth with units even when nautical=true)

units=e&nautical=true will give pressures in inches-of-mercury and speeds in knots units=m&nautical=true will give pressures in millibars and speeds in knots units=e&nautical=false will give pressures in inches-of-mercury and speeds in mph units=m&nautical=false will give pressures in millibars and speeds in kph

Data Elements & Definitions

Field Name	Description	Type	Range	Sample	Nulls Allowed
metadata	metadata object	object			N
next	Indicates if multiple queries are required	number		1346619600000	Y
type	GeoJSON type attribute	string	FeatureCollection	"FeatureCollection",	N
features	GeoJSON features array	[array]			N
properties		object			N
bulletinId	internal use only	string		a94e1880a4870ae1b7d21049151d5edfa4e1011e	N
stormKey	Unique storm identifier through life of the storm	string		a87e1880a4870ae1b7d21049151d5edfa4e1011e	N
stormId	Storm id. Format will vary by source. Not unique globally	string		EP022002	N
stormNumber	Given for only named storms leveraging JMA data. Othewise null	integer		null	Y
stormName	Name assigned by issuing agency. Named storms are in proper case	string		Alberto	N
alternateStormName	'Storm-name' populated in Japanese when data is fromJ MA. Otherwise will be'null'	string		null	Y
source	Issuing Agency	string	NHC, WPC, CPHC, JTWC	NHC	N
designatedSource	true if a TWC selected provider	boolean	true or false	TRUE	N
issueOffice	office issuing bulletin	string		KNHC	N
issueDateTime	Time Issuing Agency creates the bulletin	ISO	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T01:00:00-00:00	N
issueDateTimeZoneCode	IANA code for issueDateTime	string		America/New_York	N
issueDateTimeZoneAbbreviation	Time zone abbreviation for issueDateTime	string		EDT	N
advisoryNumber	Issuing Agency advisory number	string		12A	N
advisoryDateTime	Advisory time	ISO	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T10:00:15-08:00	N
advisoryDateTimeZoneCode	IANA code for advisoryDateTime	string		America/New_York	N
advisoryDateTimeZoneAbbreviation	Time zone abbreviation for issueDateTime	string		EDT	N
currentPosition		object			N
latitude	Current latitude of the storm	decimal	Negative if in the Southern Hemisphere	42.5	N
latitudeHemisphere	Latitude hemisphere	string	N,S	N	N
longitude	Current longitude of the storm	decimal	Negative if in the Western Hemisphere	-59.8	N
longitudeHemisphere	Longitude hemisphere	string	E,W	W	N
stormTypeCode	Encoded storm type	string	TD, TS, HU, SS, PT, RO, SD, EX, LOW, PTC, TY, ST, TC,	HU	N
stormType	Storm type	string	Tropical Depression, Tropical Storm, Hurricane, Subtropical Storm, Post-tropical cyclone, Remnants of, Subtropical Depression, Extratropical, Extra Tropical Low, Potential Tropical Cyclone, Typhoon, Super Typhoon, Tropical Cyclone,	Hurricane	N

stormSubTypeCode	Encoded storm sub type	string	1, 2, 3, 4, 5	1	Y
stormSubType	Storm sub type	string	Category 1 Hurricane Category 2 Hurricane Category 3 Hurricane Category 4 Hurricane Category 5 Hurricane Category 1 Tropical Cyclone Category 2 Tropical Cyclone Category 3 Tropical Cyclone Category 4 Tropical Cyclone Category 5 Tropical Cyclone Cyclonic Storm Severe Cyclonic Storm Very Severe Cyclonic Storm Extremely Severe Cyclonic Storm Super Cyclonic Storm	Category 1 Hurricane Note: In EP, CP, and AL, only stormType=HU (Hurricane) has a subType In WP, no stormType has a subType In IO and SH, stormType=TC (Tropical Cyclone) has a subType. If stormType=TC in another basin, it will not have a subType.	Y
headline	List of headlines. [list]	[array]	For NHC data headline is US English only and will be populated when available For JTWC the data headline will be null.		Y
headline	Headline extracted from bulletin	string	Always uppercase	HURRICANE CONDITIONS EXPECTED TODAY	N
maximumSustainedWind	Maximum sustained winds	integer		45	N
windGust	Wind gusts	integer		70	Y
minimumPressure	Minimum central pressure	decimal		29.5	Y
heading	Heading information for the storm	object			N
stormDirection	Current direction of the storm in degrees	string	0 to 360 or stationary or drifting, meandering	340	N
stormDirectionCardinal	Cardinal wind direction	string	N, S,E,W, NNE, NE,ENE,ESE, SE, SSE, SSW, SW, WSW, WNW, NW,NNW, Almost Stationary, Stationary, Drifting , Meandering	NNW	N
stormSpeed	Forward speed of the storm	integer		12	Y
nearbyLocation	Geographical references for a storm. [list of objects]	object	Only populated from TCP and TCU bulletin. For JTWC the data headline will be null.		Y
locationName	Location name	string	Always uppercase	CAPE HATTERAS NORTH CAROLINA	N
distance	Distance from the center of the storm	integer		240	Y
directionCardinal	Direction of locationName from the center of the storm	string	N, S,E,W, NNE, NE,ENE,ESE, SE, SSE, SSW, SW, WSW, WNW, NW,NNW, Almost Stationary, Stationary, Drifting , Meandering	N	Y
cityName	Nearest city	string	Only for CONUS. Always in proper case	Cape Hatteras	Y
stateCode	Nearest state	string	Only for CONUS. Always in uppercase	NC	Y
windRadii	Storm wind radius values. [list of objects]	object			Y
radiiWspd	Wind speed for the associated quadrant	integer		64	N
NE	Distance from the center of the storm in the NE quadrant where radii_wspd begin	integer		75	N
SE	Distance from the center of the storm in the SE quadrant where radii_wspd begin	integer		75	N

SW	Distance from the center of the storm in the SW quadrant where radii_wspd begin	integer		80	N
NW	Distance from the center of the storm in the NW quadrant where radii_wspd begin	integer		80	N
seaRadii	Wave Height Radius Values Object	object			Y
NE	Distance from the center of the storm in the NE quadrant where wave_height values begin	integer		12	N
SE	Distance from the center of the storm in the SE quadrant where wave_height values begin	integer		75	N
SW	Distance from the center of the storm in the SW quadrant where wave_height values begin	integer		75	N
NW	Distance from the center of the storm in the NW quadrant where wave_height values begin	integer		80	N
type	GeoJSON type	string	Feature	"Feature"	N
geometry	GeoJSON geometry	object			N
type	GeoJSON type	string	Polygon	"Polygon"	N
coordinates	Coordinates array	[array]			N
coordinates	Array of GeoJSON coordinates ordered as: (longitude, latitude) which defines the polygon geometry	[array]			N

JSON Sample

```
// Response Collapsed for Presentation Purposes
{
  "metadata": {
    "next": null
  },
  "type": "FeatureCollection",
  "features": [
    {
      "properties": {
        "bulletinId": "d978a4a7cdb30852a517ef7ec741f05d",
        "stormKey": "f4b8aa1e70f9b4866f061703b6f298fd",
        "stormId": "AL112017",
        “stormNumber”: null,
        "stormName": "Irma",
        “alternateStormName”: null,
        "source": "NHC",
        "designatedSource": true,
        "basin": "AL",
        "issueOffice": "KNHC",
        "wmoId": "WTNT21",
        "issueDateTime": "2018-04-19T20:55:00Z",
        "issueDateTimeZoneCode": "Etc/UTC",
        "issueDateTimeZoneAbbreviation": "UTC",
        "advisoryNumber": "39",
```

```
"advisoryDateTime": "2018-04-19T17:00:00-04:00",
"advisoryDateTimeZoneCode": "America/New_York",
"advisoryDateTimeZoneAbbreviation": "EDT",
"currentPosition": {
  "latitude": 22.1,
  "latitudeHemisphere": "N",
  "longitude": -76.5,
  "longitudeHemisphere": "W",
  "stormTypeCode": "HU",
  "stormType": "Hurricane",
  "stormSubTypeCode": "4",
  "stormSubType": "Category 4 Hurricane",
  "headline": null,
  "minimumPressure": 925,
  "maximumSustainedWind": 250,
  "windGust": 305,
  "heading": {
    "stormDirection": "280",
    "stormDirectionCardinal": "W",
    "stormSpeed": 19
  },
  "nearbyLocation": [],
  "windRadii": [
    {
      "radiiWindSpeed": 63,
      "NE": 296,
      "SE": 222,
      "SW": 148,
      "NW": 278
    },
    {
      "radiiWindSpeed": 93,
      "NE": 185,
      "SE": 167,
      "SW": 93,
      "NW": 148
    },
    {
      "radiiWindSpeed": 119,
      "NE": 111,
      "SE": 111,
      "SW": 56,
      "NW": 111
    }
```

```
        ],
        "seaRadii": {
          "waveHeight": 4,
          "NE": 944,
          "SE": 333,
          "SW": 111,
          "NW": 888
        }
      }
    },
    "type": "Feature",
    "geometry": {
      "type": "Polygon",
      "coordinates": [
        [
          [
            -76.3447,
            22.1014
          ],
          [
            -76.3474,
            22.0731
          ],
          [
            -76.356,
            22.0459
          ],
          [
            -76.3701,
            22.0207
          ],
          [
     -76.3479,
            22.1296
          ],
          [
            -76.3447,
            22.1014
          ]
        ]
      ]
    }
  }
]
```

```
}
```